

Work Order ID 146574

Thursday, May 19, 2016 2:54:55 PM

146574

Page 1

Item ID: D119-796-241TRN

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Crosstube Turning Detail

Start Date: 6/1/2016 Start Qty: 1.00

1

Cust Item ID:

Required Date: 6/17/2016 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: MJS

Date:

MAY 24 2016

Tooling:

Date:

Run Start ***NR1***

QC: _____

Date:

SPC (Y/N): _____

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
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D119-796-241	I
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100

100

Mori Seiki

Mori Seiki CNC Lathe Large

MORI SEIKI CNC LATHE LARGE

0.21

Memo

1.96

1-Fill tube with sand & install plugs on both ends as per Folio FB298

2-Turn first side as per Folio FB298

3-Blend transition lines only, **do not sand whole tube**:

FOLIO REV: 44DWG REV: I

*Use mill bastard file, brush file repeatedly with file card.

*Do not use sandpaper coarser than 320 grit.

110

110

QC

Quality Control

QC2- Inspect parts off machine FAI/FAIB

0.00

Memo

0.00

1 0 16/10/24

1 0

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
						QC / QA Coordinator Approval			

Root Cause			FAULT CATEGORY					
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐			
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐			
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐			
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐			
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐			
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐			
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐			
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐			
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐			
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐			
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____						
Misidentified ☐	Past Due ☐							

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Required Date: 6/17/2016 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120 *120* Mori Seiki Mori Seiki CNC Lathe Large	MORI SEIKI CNC LATHE LARGE Memo 1-Turn second side as per Folio FB298 2-Blend transition lines only, **do not sand whole tube**: *Use mill bastard file, brush file repeatedly with file card. *Do not use sandpaper coarser than 320 grit. FOLIO REV: <u>44</u> DWG REV: <u>4</u> 3-Remove sand and plugs 4- scribe batch # and part # as per dwg	0.00 2.88				<u>1</u>	<u>0</u>		<u>VHJ</u>
130 *130* QC Quality Control	QC2- Inspect parts off machine FAI/FAIB Memo	0.00 0.00				<u>1</u>	<u>0</u>		<u>VHJ</u>

16/10/26

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

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Item ID: D119-796-241TRN

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1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140	QC8- Inspect parts - second check	0.00				1	0		DA 47 9-89
140									
QC	Memo	0.02							
Quality Control									16-10-26
145		0.00							
145									
Crosstubes	Memo	0.82							
Crosstubes	GRIND ONLY TRANSITION LINES SMOOTH LONGITUDE WAY.								
150		0.11							
150									
HandFXtube	Memo	0.69							
Hand Finishing Crosstubes	1- PRESSURE WASH X-TUBE INSIDE AND OUT								
	2- ALODINE AND ACID ETCH X-TUBE INSIDE AND OUT. USE RED SCOTCH BRITE								

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

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Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐		FAULT CATEGORY Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐		Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
		OTHER : _____							

Work Order ID 146574

Thursday, May 19, 2016 2:54:55 PM

146574

Page 4

Item ID: D119-796-241TRN

Accept

N900040100Setup Start ***NS1***

Revision ID:

Item Name: Crosstube Turning Detail

Stop ***NS2***Start Date: 6/1/2016 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 6/17/2016 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160 *160* QC Quality Control	QC7-Inspect Chemical Conversion Coat Memo	0.00 0.02				DPZ	16-11-02		
170 *170* Packaging Packaging Packaging	Packaging Memo LOCATION : LG014	0.00 0.00				DPZ	16-11-02		
180 *180* QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.10					DAS 21 9-59	NOV 02 2016	

DAS
21
9-59

NOV 02 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					

Root Cause			FAULT CATEGORY		
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :			
Misidentified ☐	Past Due ☐				

Picklist Print

Thursday, May 19, 2016 2:54:55 PM

Work Order ID: 146574

146574

Parent Item: D119-796-241TRN

D119-796-241TRN

Parent Item Name: Crosstube Turning Detail

Start Date: 6/1/2016

Required Date: 6/17/2016

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV A RQ 14/05/27 VERIFIED BY DD
16.05.04 AS PER DWG REV.I DD VERF:JLM

IPP REV:B

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6023-106		Manufactured	No			100	Each	20.0000	1	1			

D6023-106

Crosstube Material

Location

Loc Qty

Loc Code

LG003

20

139411

20

1

VHJ 16/10/20

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
						QC / QA Coordinator Approval			

Root Cause			FAULT CATEGORY							
Environment ☐	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong
Design ☐	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions
Doc/Data ☐	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance
Equip/Tooling ☐	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect
Handling/Pre ☐	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing
Material ☐	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved
Internal Transport ☐	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing
Tribal Knowledge ☐	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish
LOA ☐	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread
Substation ☐	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence
Past Expiry Date ☐	☐	Manufacturing Process	OTHER : _____							
Misidentified ☐	☐	Past Due								

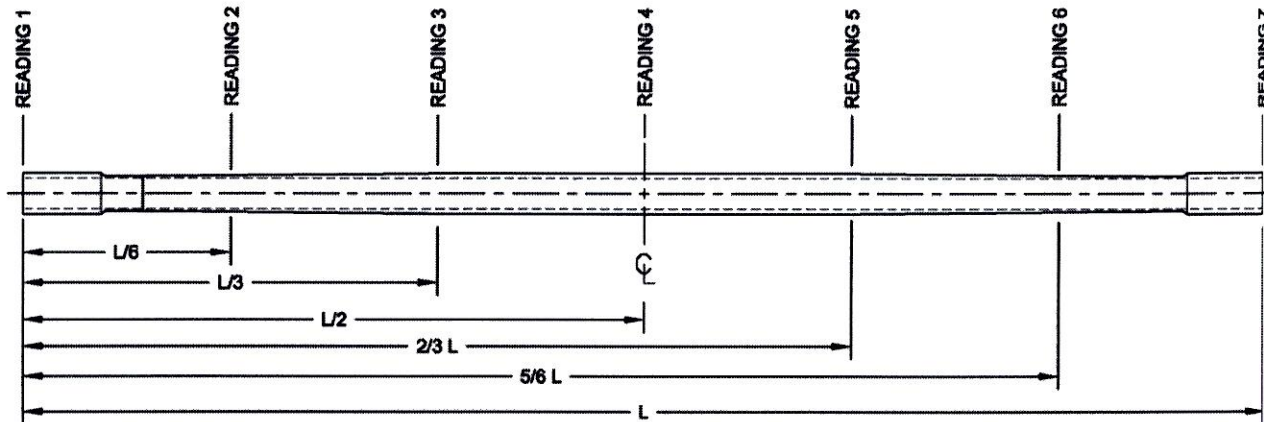
DART AEROSPACE LTD		Work Order: 146574
Description: Crosstube Assembly (AW119 MKII Aft)		Part Number: D119-796-241TRN
Inspection Dwg: D119-796-241 Rev: H I AD		Page 1 of 2

FIRST ARTICLE INSPECTION CHECKLIST

	Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	5.88	+/-0.030	5.88	✓		↑ Vernier	
	2.516	+0.005/-0.000	2.520	✓			
	2.626	+0.005/-0.000	2.631	✓			
	2.627	+0.005/-0.000	2.632	✓			
	2.798	+0.005/-0.000	2.801	✓			
	2.799	+0.005/-0.000	2.804	✓			
	2.989	+0.005/-0.000	2.992	✓			
	3.191	+0.005/-0.000	3.191	✓			
	3.200	+0.005/-0.000	3.200	✓			
SIDE B	5.88	+/-0.030	5.88	✓		↑ Vernier	
	2.516	+0.005/-0.000	2.520	✓			
	2.626	+0.005/-0.000	2.630	✓			
	2.627	+0.005/-0.000	2.632	✓			
	2.798	+0.005/-0.000	2.803	✓			
	2.799	+0.005/-0.000	2.804	✓			
	2.989	+0.005/-0.000	2.991	✓			
	3.191	+0.005/-0.000	3.191	✓			
	3.200	+0.005/-0.000	3.200	✓			
	105.71	+/-0.020	105.69	✓		tape	

DART AEROSPACE LTD	Work Order: 146574
Description: Crosstube Assembly (AW119 MKII Aft)	Part Number: D119-796-241TRN
Inspection Dwg: D119-796-241 Rev: H	Page 2 of 2

WALL THICKNESS MEASUREMENT



Location	WALL THICKNESS MEASUREMENT (IN)				Deviation Δw (max-min)	TOLERANCE
	w1	w2	w3	w4		
READING 1 L= 0"	.155	.143	.134	.146	0.021	0.030"
READING 2 L= 17.618	.220	.224	.221	.219	0.005	
READING 3 L= 35.235	.326	.329	.317	.317	0.012	0.063
READING 4 L= 52.855	.496	.487	.478	.488	0.018	
READING 5 L= 70.473	.333	.323	.307	.322	0.026	0.030"
READING 6 L= 88.091	.240	.224	.199	.211	0.041 *	
READING 7 L= 105.709	.163	.150	.126	.142	0.037 *	0.133 -0.007

DAS
12 16/10/27
9-89

Calibration Result

Actual Block Thickness: 100.522

Sitescan 250 Measured Thickness: 100.500

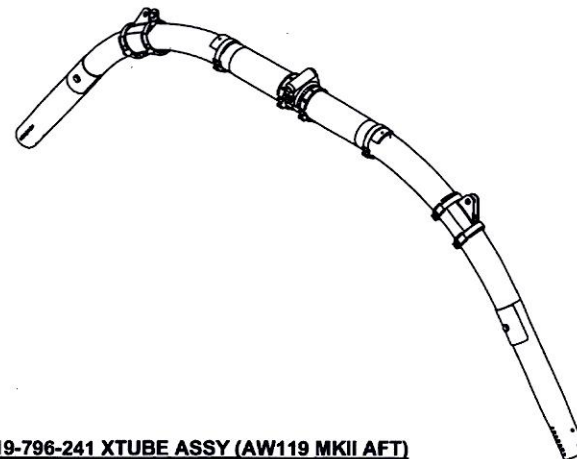
Measured by:	<i>[Signature]</i>
Date:	16/10/26

Audited by:	DAS 47 9-89
Date:	16-10-26

Preliminary Approval:	
Date:	

Rev	Date	Change	Revised by	Approved
A	14.09.18	New Issue (P/O D119-796-201)	KJ	
B	15.03.12	Dimensions updated per Dwg Rev F	KJ	
C	15.04.14	Tolerance dimensions revised on Wall Thickness table	KJ	
D	15.05.14	Tolerances revised per Dwg Rev G	KJ	
E	15.09.09	Dwg Rev updated	KJ	<i>[Signature]</i>

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 146574 MJS
1605-24



D119-796-241 XTUBE ASSY (AW119 MKII AFT)

NOTES:

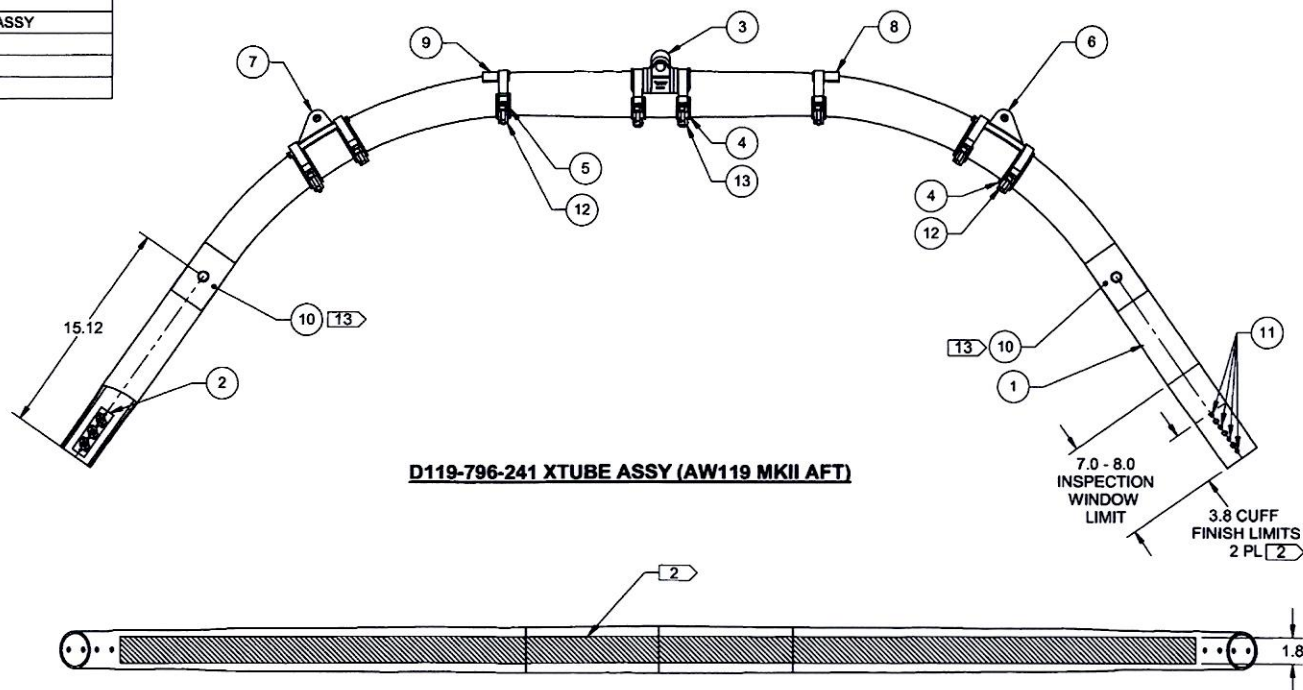
- 1) MATERIAL: N/A
- 2) FINISH: APPLY MATTE CLEAR COAT PER QSI 005 4.2
MASK D5134-041/-042 DAMPER SUPPORT ASSEMBLIES, D5136-1/-2 CONTACT PADS AS WELL AS
UNDERSIDE OF CROSSTUBE AS SHOWN (B4-2, HATCHED AREA).
PAINT OUTSIDE PER DART QSI 005 4.2 AFTER APPLYING CLEAR COAT
DO NOT APPLY FINISH (PAINT OR CLEAR COAT) TO CUFFS IN LOCATION SHOWN, MASK PRIOR TO FINISHING
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY USING PART NUMBER "D119-796-241" AND BATCH NUMBER
ON INSIDE OF CUFF PER QSI 044 6.4
- 7) WEIGHT: 26.26 lbs
- 8) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE.
THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM DEFECTS SUCH AS
SCRATCHES, NICKS OR DENTS. DEFECTS UP TO 0.005 MAY BE BLENDED OUT
LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 9) INSTALL D5122-1 CENTER SUPPORT HAND TIGHT ONLY. DO NOT TORQUE. INSTALL RED
TAG TO INDICATE "D5122-1 CENTER SUPPORT MUST BE BONDED PER IIN-D119-796 PRIOR TO FLIGHT".
- 10) PRIOR TO FINISHING, ABRASE MATING SURFACES OF D5136-1/-2 AND SURFACE OF
CROSSTUBE WITH SCOTCH BRITE 7447 RED AND REMOVE RESIDUE WITH DUPONT
4105S WASH 'N' WIPE DEGREASER. APPLY A 0.100" MIN THK LAYER OF PROSEAL 890
ON THE INSIDE CONCAVE SURFACE OF THE D5136-1/-2 CONTACT PADS AND INSTALL
AT AN 8.4" OFFSET FROM THE CROSSTUBE BENDING PLANE. INSTALL MS21920-25
CLAMPS AND D5123-5 CLAMP CUSHIONS WHILE WET. PRIOR TO PACKAGING, RE-CHECK
TORQUE ON CLAMPS AFTER PROSEAL 890 SEALANT HAS CURED FOR 72 HOURS.
- 11) TORQUE MS21920 CLAMPS 80 - 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN
SAFETY. THE NUT HAS NOT BOTTOMED-OUT AFTER TORQUING AND THE NUT IS FACING AFT.
- 12) PRIOR TO FINISHING, POSITION AND INSTALL D5134-041/-042 DAMPER SUPPORTS USING JIG DT10085.
ABRADE MATING SURFACES OF THE D5134-041/-042 DAMPER SUPPORTS AND CROSSTUBE WITH
SCOTCH BRITE 7447 RED AND REMOVE RESIDUE WITH DUPONT 4105S WASH 'N' WIPE
DEGREASER. APPLY A 0.100" MIN THK LAYER OF PROSEAL 890 ON THE INSIDE CONCAVE SURFACE
OF THE D5134-041/-042. INSTALL MS21920-25 CLAMPS AND D5123-1 CLAMP CUSHIONS WHILE WET.
PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 890 SEALANT HAS CURED
FOR 72 HOURS.
- 13) PRIOR TO FINISHING, ABRASE MATING SURFACES OF CROSSTUBE AND D5152-043 WITH
SCOTCH BRITE 7447 RED AND REMOVE RESIDUE WITH DUPONT 4105S WASH 'N' WIPE DEGREASER.
INSTALL D5152-043 WITH LAYER OF PROSEAL 890 ON INSIDE CONCAVE SURFACE, 0.100" MIN THK
LOCATE D5152-043 USING TOOL DT10112.

I	D6023-106 MATERIAL REPLACES D6009-106. D5136-1/-2 & D5134-041/-042 NOW INSTALLED ON PRIMER	AP	15.10.13
H	NOTE 9 RE-WITTEN. BONDING INSTRUCTIONS MOVED TO IIN. SEE PREVIOUS REV FOR DETAILS.	AP	15.07.02
G	FINISHING ORDER ADJUSTED. UPDATE BEND TOLERANCE AND TRN DETAIL TOLERANCE TO MATCH D119-796-141 DWG	AP	15.04.24
F	REMOVED PRIMER/PAINT ON CUFFS, 2.516 WAS 2.500 (C8-5)	AP	15.02.03
E	D5152-043 WAS D5150-3, SCOTCH BRITE 7447 RED WAS 180 GRIT SANDPAPER	DB	15.01.15
D	ADD D5150-3 STEP POST (2X), MOVED INSPECTION WINDOW DETAIL TO SHIT 1, MODIFIED NOTES ON SH 1 & 3	DB	14.11.25
C	CR3212-4-07 RIVETS WAS CR3212-4-05 RIVETS, RADIUS BLOCK WAS NUT PLATE ASSEMBLY (BOM), REMOVED 7.5 DEG CUFF HOLE OFFSET (A1-3), REDUCED CUFF DIA TO 2.500 (C8-5), ADD INSPECTION WINDOW	AP	14.10.23
B	ORIENTATION OF D5122-1 CENTER SUPPORT WAS CORRECTED. D5123-5 ADDED UNDER D5136-1/-2 CONTACT PADS. ADDED D2873-043 NUT PLATE ASSY & CR3212-4-05 RIVETS. ADDED REFERENCE TO SKIDTUBES FOR LOCATING CUFF HOLES. RE-ORGANIZED NOTES, REMOVED REDUNDANT INFORMATION.	AP	14.09.08
A	NEW ISSUE	AP	14.08.07
REV.	DESCRIPTION		BY DATE
DESIGN	AP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AP		
CHECKED	AJS	DRAWING NO.	REV. I
MFG. APPR.	JLM	D119-796-241	SHEET 1 OF 7
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	XTUBE ASSY (AW119 MKII AFT)	NTS
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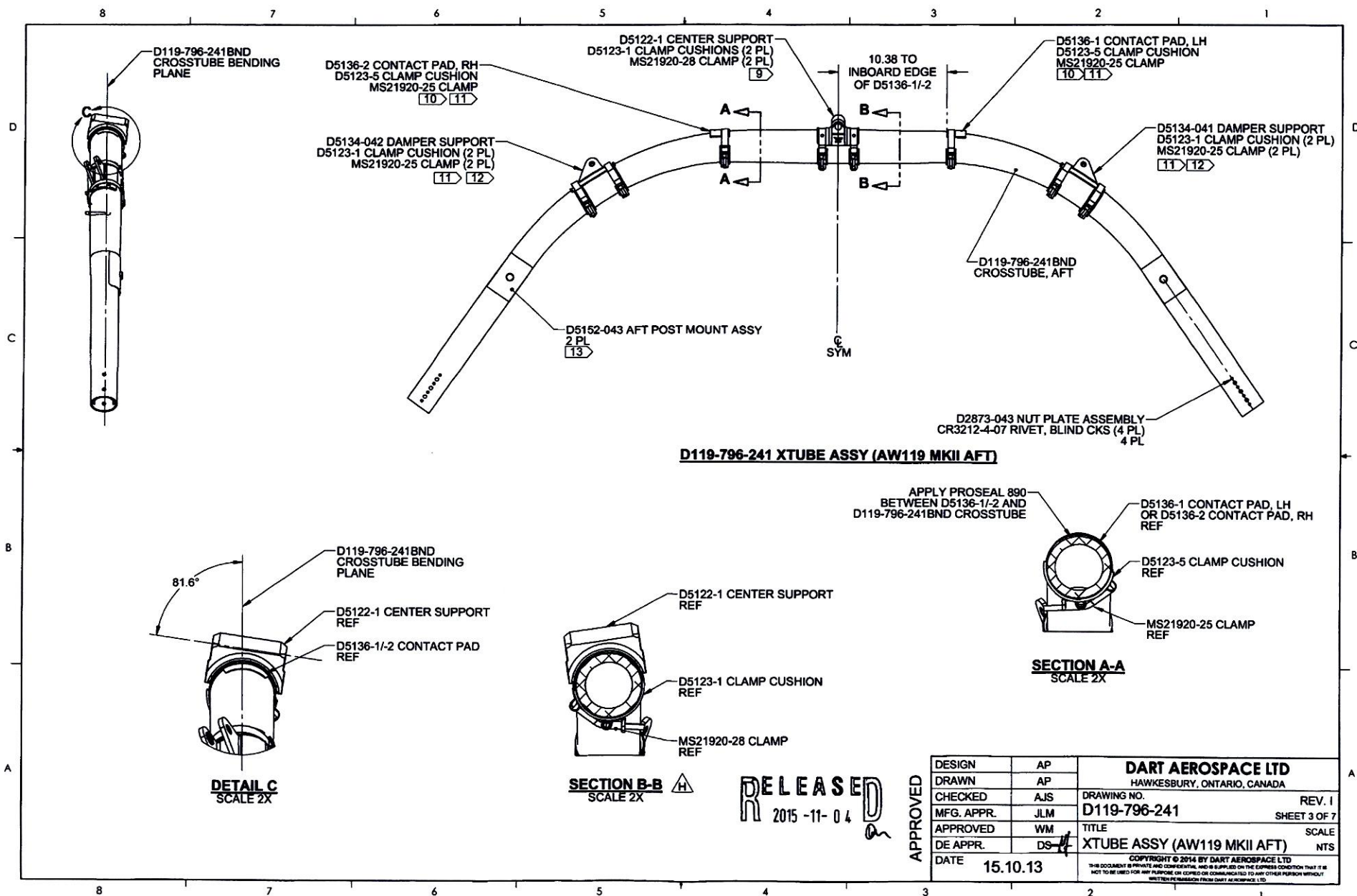
ITEM	QTY	P/N	DESCRIPTION
	X	D119-796-241	XTUBE ASSY (AW119 MKII AFT)
1	1	D119-796-241BND	CROSSTUBE, AFT
2	4	D2873-043	RADIUS BLOCK
3	1	D5122-1	CENTER SUPPORT
4	6	D5123-1	CLAMP CUSHION
5	2	D5123-5	CLAMP CUSHION
6	1	D5134-041	DAMPER SUPPORT ASSY, LH
7	1	D5134-042	DAMPER SUPPORT ASSY, RH
8	1	D5136-1	CONTACT PAD, LH
9	1	D5136-2	CONTACT PAD, RH
10	2	D5152-043	AFT POST MOUNT ASSY
11	16	CR3212-4-07	RIVET, BLIND CSK
12	6	MS21920-25	CLAMP
13	2	MS21920-28	CLAMP

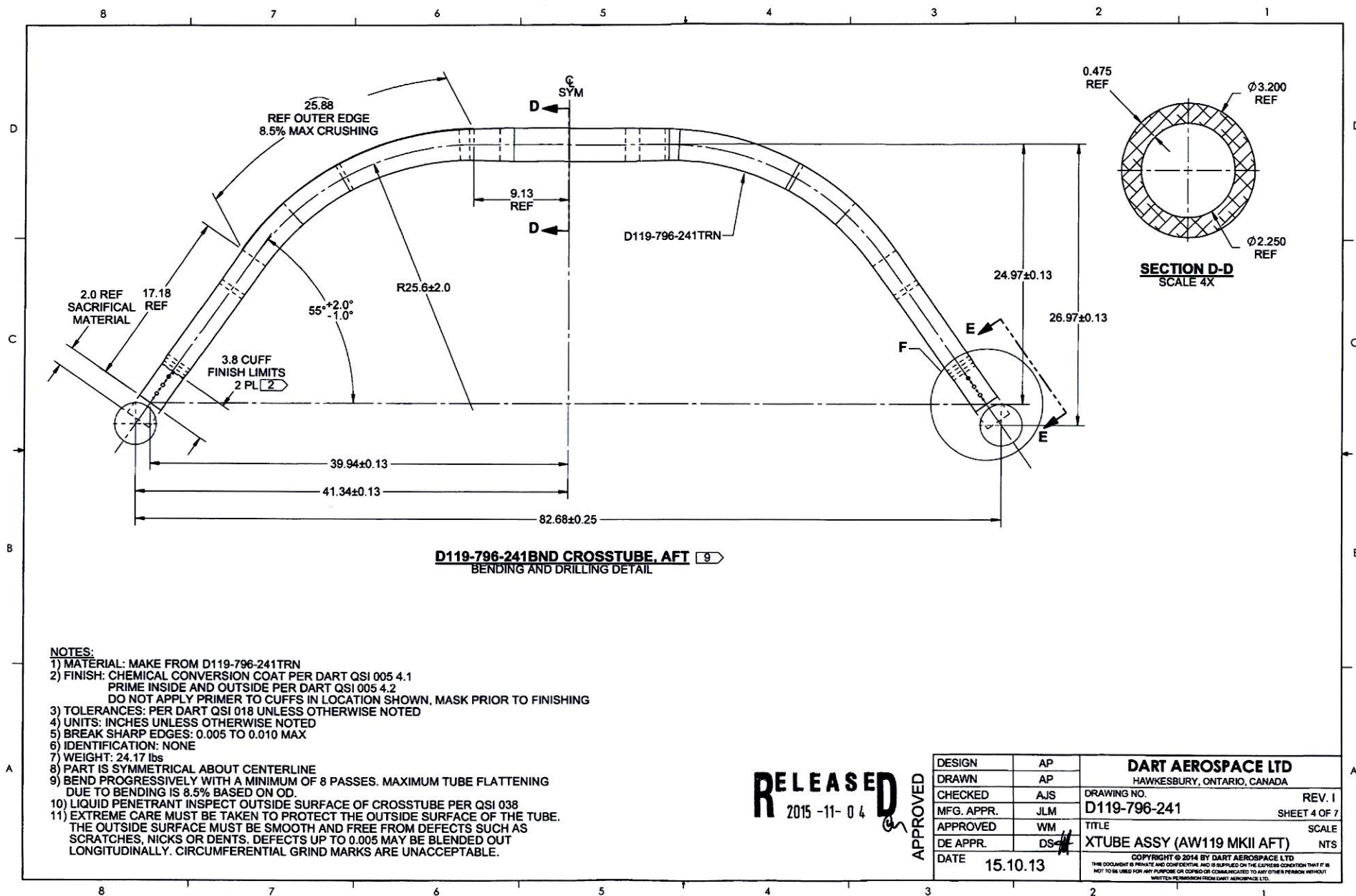


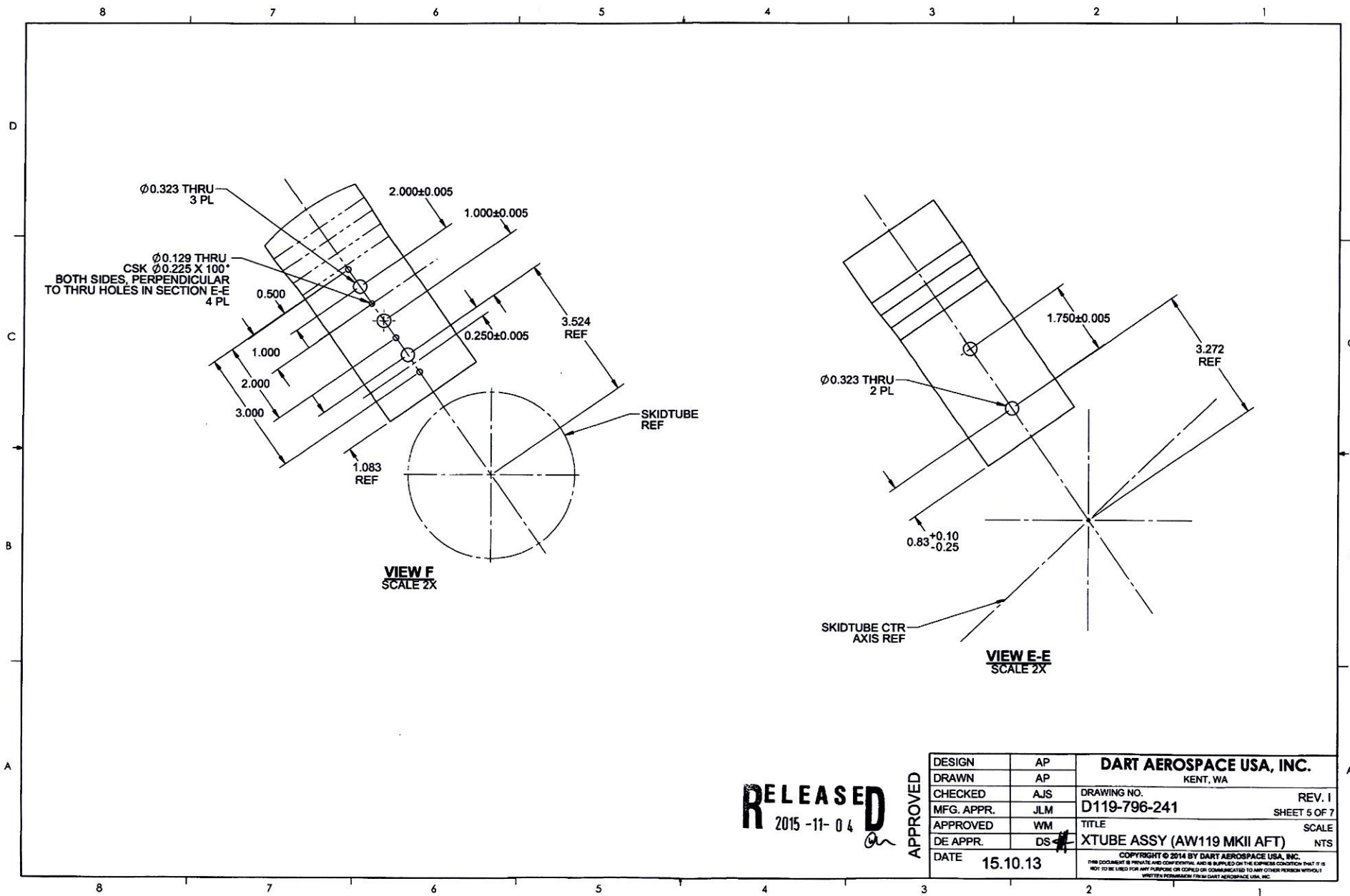
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MFG. APPR.	JLM	D119-796-241	SHEET 2 of 7
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DE APPR.	DS	XTUBE ASSY (AW119 MKII AFT) NTS	
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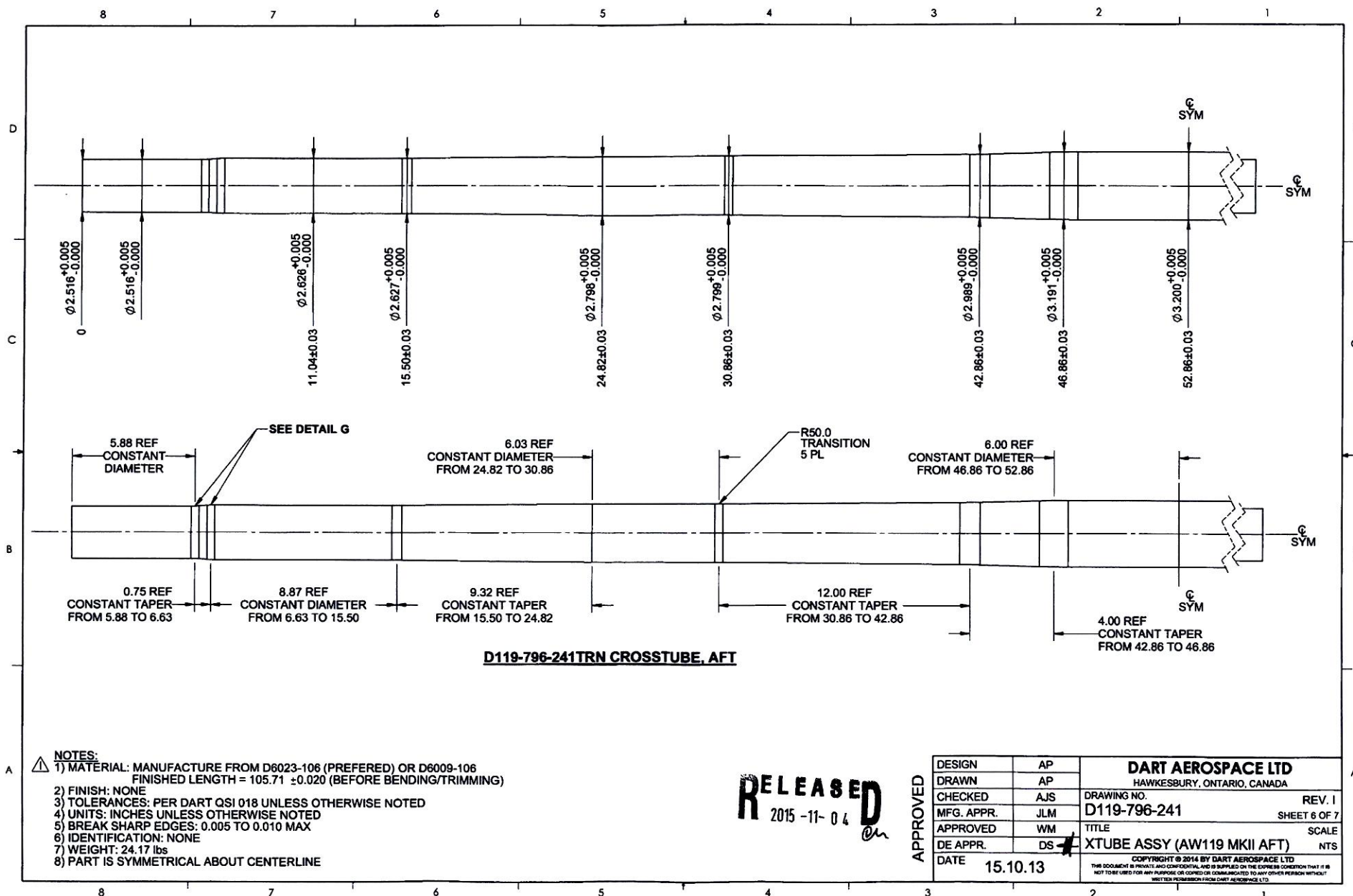




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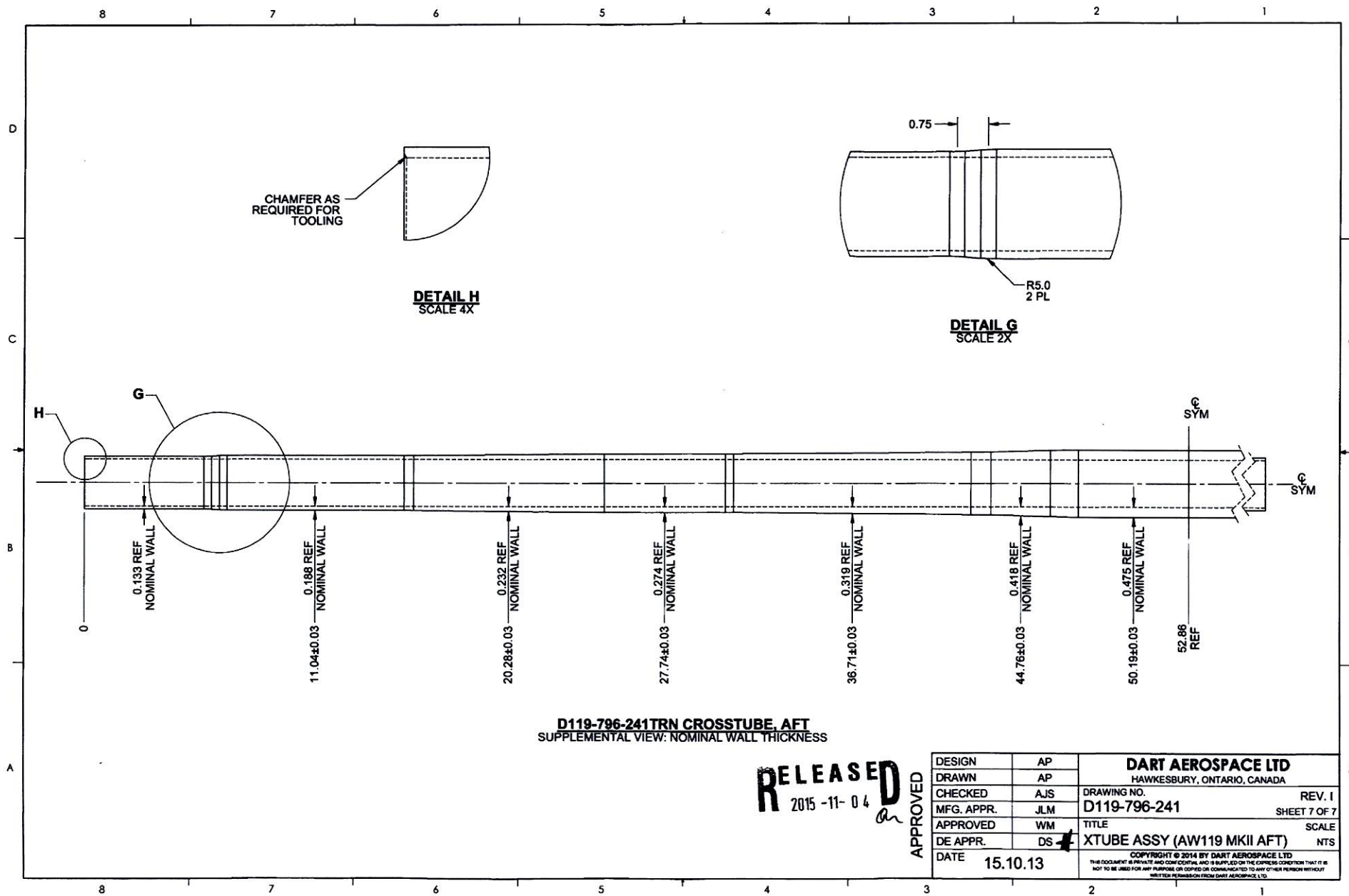
DESIGN	AP	DART AEROSPACE USA, INC. KENT, WA	
DRAWN	AP		
CHECKED	AJS	DRAWING NO.	REV. 1
MFG. APPR.	JLM	D119-796-241	SHEET 5 OF 7
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D119-796-241TRN CROSSTUBE, AFT
SUPPLEMENTAL VIEW: NOMINAL WALL THICKNESS

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MFG. APPR.	JLM	D119-796-241	SHEET 7 OF 7
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